

REMARKS

Claims 1-55 and 66-75 are currently pending in the application. Claims 11-65 were withdrawn from consideration in the reply to the election of species requirement filed on May 24, 2005; claims 56-65 have been canceled with this amendment without prejudice or disclaimer to the subject matter contained therein.

Claims 1-10 and 66-75 are currently being considered in the application, with claims 1, 6, 66, and 71 being independent. Claim 1 has been amended to better define the present invention. Claims 66-75 have been added to present additional aspects of the invention. Applicants respectfully request favorable consideration of this amendment and earnestly seek timely allowance of the pending claims.

Claim Rejections – 35 USC §102

The Examiner rejected claims 1-5 under 35 USC 102(a) as being anticipated by European Patent Application No. EP 1058413 A2 to Michishita et al. (“Michishita”). Applicants submit the Examiner failed to establish a *prima facie* case of anticipation and respectfully traverse this rejection.

Michishita merely discloses a gain-flattening optical amplifier, which enables a gain tilt to be diminished when amplifying wavelength division multiplexing signals, and which enables the execution of constant gain-flattening control (see abstract). Specifically, Michishita discloses a gain-flattening optical amplifier accepting an input optical signal at input port 1 which is amplified by an optical amplification rare earth addition fiber 2. The amplified signal is then provided to a pumping light multiplexer 11 for multiplexing the signal light with the pumping

light provided by the pumping source 10. The signal is then fed through multiple light splitters 5 and branched through a plurality of optical bandwidth limiters 9, 91. The plurality of bandwidth limited (i.e., filtered) signals are then fed to optical detecting units 6. In one of these branches, the output from the at least one optical detector unit 6 is fed into an output control unit which controls a variable optical attenuator 3. (See pages 22-23, bridging paragraph No. [0035]; Fig. 1.)

However, Michishita fails to disclose, at least, “an output detecting unit which detects an unfiltered output level of said optical amplifier,” as recited in claim 1.

Michishita is distinguished by the present invention in that Michishita discloses utilizing an filtered version of the signal provided by the optical amplifier 2 in order to control the variable optical attenuator 3 through optical attenuator controller 7.

Accordingly, Applicants respectfully request the Examiner to withdraw the rejection of claim 1. Claims 2-5 depend from claim 1 and are allowable at least by virtue of their dependency from allowable claim 1.

Claim Rejections – 35 USC §103

The Office Action indicated that claims 6-10 are rejected under 35 USC 103(a) as being unpatentable over Michishita in view of US Patent No. 6,480,329 to Sugaya et al. (“Sugaya”). Applicants submit the Examiner failed to establish a *prima facie* case of anticipation and traverse this rejection.

As provided in detail above in the arguments for the allowability of claim 1, Michishita merely teaches utilizing an optical signal which is filtered by optical bandwidth limiter 9 as a

basis for controlling the variable optical attenuator 3 through optical attenuator controller 7. More specifically, Michishita teaches “controlling the variable optical attenuator 3 on the basis of the optical information which the respective photo detectors 6,...,6 generate to be outputted, in order to harmonize output level of the gain-flattening optical amplifier.” (See page 23, paragraph [0035].) That is, while not specifically shown in Fig. 1, the disclosure of Michishita teaches multiple optical signals filtered by different optical bandwidth limiters and at least one of these signals, to the output control unit 7 for gain-flattening attenuation through variable optical attenuator 3.

Sugaya merely teaches a multi-wavelength light amplifier which includes multiple amplification stages. Specifically, Sugaya teaches an embodiment where a variable attenuator 11 controls the output from the second stage optical amplifier by monitoring the output of the attenuator through a beam splitter 12 and photo detector 13. Photo detector 13 provides an electrical feedback signal to an automatic level control circuit 14, which controls the variable optical attenuator 11.

Applicants submit the Examiner has failed to establish a *prima facie* case of obviousness because adequate motivation was not provided for the rejection. The Examiner asserts that “it would have been obvious to have modified the optical variable attenuator 3 of Michishita to the configuration shown by Fig. 9 of Sugaya when seeking the improvement provided by a detector dedicating only to the attenuator.” (See Office Action page 3, paragraph 5.) Applicants submit that this motivation is improper because the proposed modification would render Michishita’s invention unsatisfactory for its intended purpose. Specifically, by modifying Michishita by the teachings of Sugaya, the attenuator would be controlled by the full bandwidth output of the

optical amplifier, and the variable attenuator would therefore not be able to “harmonize output levels of the gain-flattening amplifier,” as recited by Michishita (page 23, paragraph [0035], lines 15-16.) The output control unit 7 as taught by Michishita would be unable to properly control variable optical attenuator 3 because it would not be receiving information from the respective photo detector 6, which are based upon optical signal which are filtered by different optical bandwidth limiters.

Accordingly, because the motivation to combine Michishita with Sugaya is inadequate, Applicants respectfully request the Examiner to withdraw the rejection of claim 6. Claims 7-10 depend from claim 6 and are allowable at least for the reasons provided above for the allowability of claim 6.

Conclusion

In view of the above amendments and remarks, this application appears to be in condition for allowance and the Examiner is, therefore, requested to reexamine the application and pass the claims to issue.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact the undersigned at telephone number (703) 205-8000, which is located in the Washington, DC area.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 02-2448 for any additional fees required under 37 C.F.R. §§ 1.16 or 1.17; particularly, extension of time fees.


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Respectfully submitted,

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